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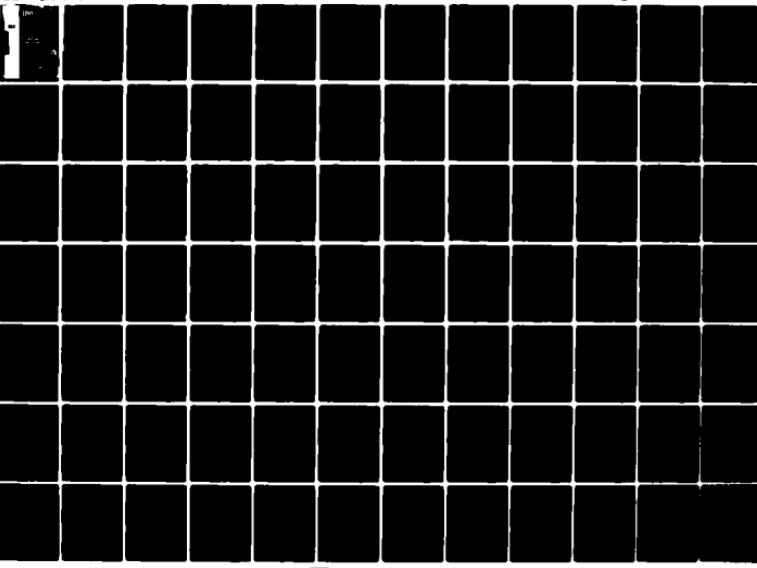
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REF ID: A6572

PUBLICISATION OF SOVIET
LASER DEVELOPMENTS (U)

NOVEMBER-DECEMBER 1979

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SEPTEMBER 1980



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BIBLIOGRAPHY OF SOVIET LASER DEVELOPMENTS

No. 44

NOVEMBER - DECEMBER 1979

Date of Report

August 13, 1980



Vice Director for Foreign Intelligence
Defense Intelligence Agency

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REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. GOVT NUMBER DIADST-2700Z-005-80	2. GOVT ACCESSION NO. AD-A090190	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) BIBLIOGRAPHY OF SOVIET LASER DEVELOPMENTS, NOVEMBER - DECEMBER 1979.		5. TYPE OF REPORT & PERIOD COVERED Number 44
6. PERFORMING ORG. REPORT NUMBER		
7. AUTHOR(s)	8. CONTRACT OR GRANT NUMBER(s)	
9. PERFORMING ORGANIZATION NAME AND ADDRESS Defense Intelligence Agency Directorate for Scientific and Technical Intelligence, ATTN: DT-1A		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS		12. REPORT DATE 13 August 1980
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)		15. SECURITY CLASS. (of this report)
16. DISTRIBUTION STATEMENT (of this Report) Approved for public release; distribution unlimited		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE 147
17. Distribution Statement (of the abstract entered in Block 20, if different from report)		
18. Supplementary Notes		
19. KEY WORDS Solid State Lasers, Liquid Lasers, Gas Lasers, Chemical Lasers, Laser Components, Nonlinear Optics, Spectroscopy of Laser Materials, Ultrashort Pulse Generation, X-ray Lasers, Gamma Lasers, Laser Theory, Laser Biological Effects, Laser Communications, Laser Beam Propagation, Laser Computer Technology, Holography, Laser Chemical Effects, Laser Parameters, Laser Measurement Applications, Laser-Excited Optical Effects, Laser Spectroscopy, Laser Beam-Target Interaction, Laser Plasma		
20. ABSTRACT This is the Soviet Laser Bibliography for November-December 1979, and is No. 44 in a continuing series on Soviet laser developments. The coverage includes basic research on solid state, liquid, gas, and chemical lasers; components; nonlinear optics; spectroscopy of laser materials; ultrashort pulse generation; theoretical aspects of advanced lasers; and general laser theory. Laser applications are listed under biological effects; communications; beam propagation; computer technology; holography; laser-induced chemical reactions; measurement of laser parameters; laser measurement applications; laser-excited optical effects; laser spectroscopy; beam-target interaction; and plasma generation and diagnostics.		

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Introduction

This bibliography has been compiled under an interagency agreement as a continuing effort to document current Soviet-bloc developments in the quantum electronics field. The period covered is November-December 1979, and includes all significant laser-related articles received by us in that interval. The bulk of the entries come from the approximately 30 periodicals which are known to publish the most significant findings in Soviet laser technology. Citations from the Russian Reference Journals are also included. Laser items from the popular or semipopular press are generally omitted.

For convenience we have abbreviated frequently cited source names; a source abbreviations list and an author index are included. All sources cited with no parenthetical notation are available at the Library of Congress. A parenthetical entry (RZh, KL) indicates the secondary source in which the citation was found as a bibliographic entry or abstract, but for which the original source is not currently available at the Library. The authors' affiliations are indicated by the numbers in parentheses following the authors' names in the text and are listed in the Author Affiliations List. New affiliations are assigned a new number and are added to a cumulative list which includes all affiliations from 1969 to the present. Only those affiliations which appear in this issue are listed in this issue's Author Affiliations List.

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I. BASIC RESEARCH

A. SOLID STATE LASERS

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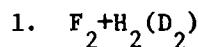
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J. BEAM-TARGET INTERACTION

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IV. SOURCE ABBREVIATIONS

(CIRC Codens)

BWAT	(BWATA)	Biuletyn Wojskowej akademii technicznej J. Dabrowskiego
DAN B	(DBLRA)	Akademiya nauk Belorusskoy SSR. Doklady
DAN SSSR	(DANKA)	Akademiya nauk SSSR. Doklady
DAN Ukr	(DUKAB)	Akademiya nauk Ukrayins'koyi RSR. Dopovidi. Seriya A. Fizyko-matematychni ta tekhnichni nauky
ETP	(EXPPA)	Experimentelle Technik der Physik
FAiO	(IFAOA)	Akademiya nauk SSSR. Izvestiya. Fizika atmosfery i okeana
FGiV	(FGVZA)	Fizika gorenija i vzryva
FiKhOM	(FKOMA)	Fizika i khimiya obrabotka materialov
FTP	(FTPPA)	Fizika i tekhnika poluprovodnikov
FTT	(FTVTA)	Fizika tverdogo tela
IAN Uz	(IUZFA)	Akademiya nauk Uzbekskoy SSR. Izvestiya. Seriya fiziko-matematicheskikh i geologokhimicheskikh nauk
I-FZh	(INFZA)	Inzhenerno-fizicheskiy zhurnal
IT	(IZTEA)	Izmeritel'naya tekhnika
IVUZ Fiz	(IVUFA)	Izvestiya vysshikh uchebnykh zavedeniy. Fizika
IVUZ Priboro	(IVUBA)	Izvestiya vysshikh uchebnykh zavedeniy. Priborostroyeniye
IVUZ Radioelektr (IVUZB)		Izvestiya vysshikh uchebnykh zavedeniy. Radioelektronika
IVUZ Radiofiz (IVYRA)		Izvestiya vysshikh uchebnykh zavedeniy. Radiofizika
KE	(KVEKA)	Kvantovaya elektronika
KhVE	(KHVKA)	Khimiya vysokikh energiy
KLDV	(FLDVA)	Knizhnaya letopis'. Dopolnitel'nyy vypusk
Kristal	(KRISA)	Kristallografiya
KSpF	(KRSFA)	Kratkiye soobshcheniya po fizike

MZhIG	(IMZGA)	Akademiya nauk SSSR. Izvestiya. Mekhanika zhidkosti i gaza
NM	(IVNMA)	Akademiya nauk SSSR. Izvestiya. Neorganicheskiye materialy
OiS	(OPSPA)	Optika i spektroskopiya
OMP	(OPMPA)	Optiko-mekhanicheskaya promyshlennost'
Opt app	(OPAPB)	Optica applicata [Poland]
Otkr izobr	(OIPOV)	Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki
PSS	(PSSAB) (PSSBB)	Physica Status Solidi (A). Applied Research Physica Status Solidi (B). Basic Research
PTE	(PRTEA)	Pribory i tekhnika eksperimenta
RiE	(RAELA)	Radiotekhnika i elektronika
RRP	(RRPQA)	Revue roumaine de physique
RZhF	(RZFZA)	Referativnyy zhurnal. Fizika
RZhGeofiz	(GZGFA)	Referativnyy zhurnal. Geofizika
RZhMekh	(RZMKA)	Referativnyy zhurnal. Mekhanika
RZhRadiot	(RZRAB)	Referativnyy zhurnal. Radiotekhnika
Sb1	Sbornik	Kvantovaya elektronika, no. 17, Kiyev, 1979.
Sb2		Vsesoyuznyy simpozium po rasprostraneniyu lazernogo izlucheniya v atmosfere. 5th. Tezisy dokladov. Part 4. Tomsk, 1979.
Sb3		Pikosekundnyye metody v spektroskopii molekul, kristallov i biologicheskikh sistem. Mezhdunarodnyy simpozium Sverkhbystryye protsessy v spektroskopii, Tallin, 1978. Tallin, 1979.
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Sb20 Kineticheskaya mass-spektrometriya i yeye analiticheskiye primeneniya. Moskva, 1979.

Sb21 Diagnostika potokov razrezhennogo gaza. Novosibirsk, 1979.

Sb22 Fiziko-khimicheskiy analiz sverkhprovodyashchikh splavov. Moskva, 1979.

Sb23 Sensibilizirovannaya fluorestensiya smesey parov metallov. Riga, 1979.

Sb24 Opticheskiy metody issledovaniy v ballisticheskem eksperimente. Leningrad, Nauka, 1979.

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Sb33 Fizika kondensirovannogo sostoyaniya. Kiyev, 1978.

Sb34 Elektronnyye i ionnyye protsessy v ionnykh kristallakh, no. 7, Riga, 1979.

Sb35 Wissenschaftliche Zeitschrift der Friederich-Schiller-universitaet Jena. Matematisch-naturwissenschaftliche Reihe, no. 2-3, 1978.

Sb36 Lazernaya spektroskopiya atmosfernykh gazov. Tomsk, 1978.

Sb37 Elektronno-kolebatel'nyye spektry nekotorykh aromaticeskikh soyedineniy, no. 2, Smolensk, 1978.

Sb38 Vliyaniye ionizirovannikh izlucheniya na svoystva dielektrikov i poluprovodnikov, no. 1, Moskva, 1979.

Sb39 Tekhnika radiatsionnogo eksperimenta, no. 6, Moskva, 1978.

TKiT (TKTEA) Tekhnika kino i televedeniya

Tr1 Trudy Yerevanskiy universitet. Uchenyye zapiski. Yestestvennyye nauki, no. 1, 1979.

Tr2 Moskovskiy fiziko-tehnicheskiy institut. Trudy. Radiotekhniki i elektroniki, no. 13, 1978.

Tr3 Kuybyshevskiy gos pedagogicheskiy institut. Nauchnyye trudy, no. 221, 1978.

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Tr6 Leningradskiy elektrotehnicheskiy institut. Izvestiya, no. 253, 1979.

TVT	(TVTYA)	Teplofizika vysokikh temperatur
UFN	(UFNAA)	Uspekhi fizicheskikh nauk
UFZh	(UFIZA)	Ukrainskiy fizicheskiy zhurnal
VMU	(VMUFA)	Moskovskiy universitet. Vestnik. Fizika, astronomiya
ZhETF	((ZEIFA))	Zhurnal eksperimental'noy i teoreticheskoy fiziki
ZhETF P	(ZFPRA)	Pis'ma v Zhurnal eksperimental'noy i teoreticheskoy fiziki
ZhNiPFIK	(ZNPFA)	Zhurnal nauchnoy i prikladnoy fotografii i kinematografii
ZhPMTF	(ZPMFA)	Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki
ZhPS	(ZPSBA)	Zhurnal prikladnoy spektroskopii
ZhTF	(ZTEFA)	Zhurnal tekhnicheskoy fiziki
ZhTF P	(PZTFD)	Pis'ma v Zhurnal tekhnicheskoy fiziki
ZhVMMF	(ZVMFA)	Zhurnal vychislitel'noy matematiki i matematicheskoy fiziki

V. AUTHOR AFFILIATIONS

NS. Non-Soviet

0. Affiliation not given
1. Physics Institute imeni Lebedev, AN SSSR (Fizicheskiy institut imeni Lebedeva AN SSSR).
2. Moscow State University (Moskovskiy gosudarstvennyy universitet).
3. Institute of Physics, AN BSSR (Institut fiziki AN BSSR).
4. Physicotechnical Institute im Ioffe, Leningrad (Fiziko-tehnicheskiy institut im Ioffe).
5. Institute of Physics, AN UkrSSR (Institut fiziki AN UkrSSR).
6. Institute of Semiconductors, AN UkrSSR (Institut poluprovodnikov AN UkrSSR).
7. State Optical Institute im Vavilov, Leningrad (Gosudarstvennyy opticheskiy institut im Vavilova).
12. Leningrad State University (Leningradskiy GU).
13. Institute of Crystallography, AN SSSR (Institut kristallografiya AN SSSR).
14. University of Friendship Among Nations im Lumumba, Moscow (Universitet druzhby narodov im Lumumby).
15. Institute of Radio Engineering and Electronics, AN SSSR (Institut radiotekhniki i elektroniki AN SSSR).
16. Moscow Engineering Physics Institute (Moskovskiy inzhenerno-fizicheskiy institut).
17. Institute of Problems of Mechanics, AN SSSR (Institut problem mehaniki AN SSSR).
21. Acoustics Institute, AN SSSR (Akusticheskiy institut AN SSSR).
23. Institute of Atomic Energy im Kurchatov, Moscow (Institut atomnoy energii im Kurchatova).
24. Moscow Higher Technical College im Bauman (Moskovskoye vyssheye tekhnicheskoye uchilishche im Baumana).
29. Leningrad Polytechnic Institute (Leningradskiy politekhnicheskiy institut).
30. Leningrad Institute of Precision Mechanics and Optics (Leningradskiy institut tochnoy mehaniki i optiki).
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38. Kazan' Physicotechnical Institute (Kazanskiy fiziko-tehnicheskiy institut).
41. Rostov-on-Don State University (Rostovskiy-na-Donu GU).
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45. Saratov State University (Saratovskiy GU).
47. Siberian Physicotechnical Institute im Kuznetsov, Tomsk (Sibirskiy fiziko-tehnicheskiy institut im Kuznetsova).
49. Vilnius State University (Vil'nyusskiy GU).
51. Kiev State University (Kiyevskiy GU).
59. Institute of Physics Research, AN ArmSSR (Institut fizicheskikh issledovaniy AN ArmSSR).
63. Institute of Physics, AN LatSSR (Institut fiziki AN LatSSR).
65. Institute of Problems of Physics, AN SSSR (Institut fizicheskikh problem AN SSSR).
66. Institute of Solid State Physics, AN SSSR (Institut fiziki tverdogo tela AN SSSR).
67. Institute of Physics of Chemistry, AN SSSR (Institut khimicheskoy fiziki AN SSSR).
71. Institute of Applied Mathematics, AN SSSR (Institut prikladnoy matematiki AN SSSR).

72. Institute of Spectroscopy, AN SSSR (Institut spektroskopii AN SSSR).
73. Institute of Theoretical Physics im Landau, AN SSSR (Institut teoreticheskoy fiziki im Landau).
74. Institute of High Temperatures, AN SSSR (Institut vysokikh temperatur AN SSSR).
75. Institute of Automation and Electronic Measurements, Siberian Branch, AN SSSR (Institut avtomatiki i elektrometrii SOAN).
77. Institute of Inorganic Chemistry, Siberian Branch, AN SSSR (Institut neorganicheskoy khimii SOAN).
78. Institute of Atmospheric Optics, Siberian Branch AN SSSR (Institut optiki atmosfery SOAN).
79. Institute of Nuclear Physics, Siberian Branch, AN SSSR (Institut yadernoy fiziki SOAN).
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107. Khar'kov State Scientific Research Institute of Metrology (Khar'kovskiy gos NII metrologii).
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118. Moscow Physicotechnical Institute (Moskovskiy fiziko-tehnicheskiy institut).
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141. All-Union Scientific Research Institute of Opticophysical Measurements (VNII optiko-fizicheskikh izmereniy).
147. Moscow Highway Institute (Moskovskiy avtodorozhnyy institut).
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159. Institute of Thermophysics, Siberian Branch, AN SSSR (Institut teplofiziki SOAN).
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184. Institute of Geochemistry and Analytical Chemistry im Vernadskiy, AN SSSR (Institut geokhimii i analiticheskoy khimii im Vernadskogo AN SSSR).
185. Gor'kiy Polytechnic Institute (Gor'kovskiy politehnicheskiy institut).

190. Central Scientific Research Institute of the Maritime Fleet (Tsentral'nyy NII morskogo flota).

193. Institute of Theoretical and Applied Mechanics, Siberian Branch, AN SSSR (Institut teoreticheskoy i prikladnoy mekhaniki SOAN).

206. Institute of Geology and Geophysics, Siberian Branch, AN SSSR (Institut geologii i geofiziki SOAN).

210. Institute of Physics, Siberian Branch, AN SSSR (Institut fiziki SOAN).

215. Physicotechnical Institute, AN TadzhSSR (fiziko-tehnicheskiy institut An TadzhSSR).

216. Kazan' Aviation Institute (Kazanskiy aviatsionnyy institut).

220. Institute of Experimental Meteorology (Institut eksperimental'noy meteorologii).

229. Moscow Aviation Technological Institute (Moskovskiy aviatsionnyy tekhnologicheskiy institut).

231. Scientific Research Institute of Motion Pictures and Photography (NI kinofotoinstitut).

247. Scientific Research Institute of Electrophysical Equipment im Yefremov, Leningrad (NII elektrofizicheskoy apparatury im Yefremova).

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297. Institute of Chemistry, AN SSSR, Gor'kiy (Institut khimii AN SSSR).

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